


SIEMENS

SIMATIC PCS 7 OSx

@aGlance

User Manual

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 DANGER
DANGER indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury. DANGER is limited to the most extreme situations.

 WARNING
WARNING indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury, and/or property damage.

 CAUTION
CAUTION used with a safety alert symbol indicates a potentially hazardous situation that, if not avoided, could result in minor or moderate injury.

CAUTION
CAUTION used without the safety alert symbol indicates a potentially hazardous situation that, if not avoided, could result in property damage.

NOTICE
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Preface

Purpose of This Manual

The *SIMATIC PCS 7 OSx @aGlance User Manual* describes the data exchange capability between Windows, Linux, UNIX, and VMS application programs and SIMATIC PCS 7 OSx. This option allows you to read process data from the OSx database directly into your remote application program. You can also write data to selected OSx tags.

- [Section 1.1](#) defines the capabilities of SIMATIC PCS 7 OSx @aGlance.
- [Section 1.2](#) describes how to plan your interface with OSx.
- [Section 1.3](#) describes the installation procedures.
- [Section 1.4](#) describes the functions supported by @aGlance
- [Section 1.5](#) suggests troubleshooting strategies.
- [Appendix A](#) describes how to use @aGlance with Excel.

If You Need Help

If you have difficulty with your system, contact the Siemens Energy & Automation, Inc., Technical Services Group in the U.S.A. at 800-333-7421. Outside the U.S.A., call 49-911-895-7000. ■

Conventions Used in the Manual Set

The procedures in the various manuals give you step-by-step instructions about how to carry out tasks. Typically, the last step of any procedure requires that you select the **OK** or **Save** button, or press **Enter**. To save space and avoid redundancy, this last step does not appear in the procedure. However, you need to finish each procedure with one of these actions.



OK Saves information that you have entered and closes the window.



Save Saves information that you have entered and does not close the window.



Cancel Closes the window without saving any information that you entered and terminates any action that you initiated.

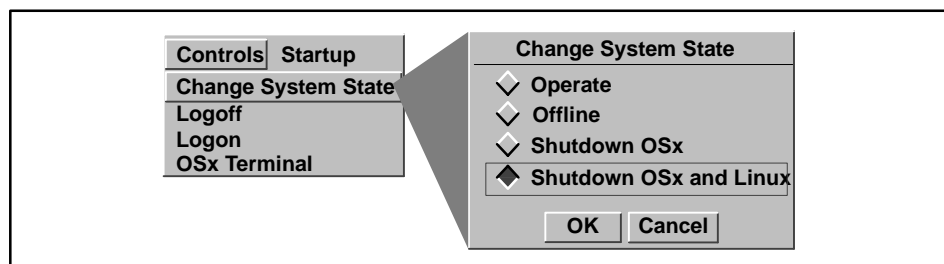


Dismiss Closes the window without undoing any changes that you have entered. However, if you press **Dismiss** before you press **Enter**, the changes that you made are discarded.

The different fonts used in the manual set have the following meanings.

- Entries that you type from the keyboard are indicated with the `courier font`.
- Items that you select on the screen, or keys that you press on the keyboard, are indicated with this **bolded font**.

Items that you select on a cascaded menu are linked in the manual text with arrows. The first term indicates where to click the main menu bar. For example, **Controls->Change System State** tells you to click **Controls** on the main menu bar, then select **Change System State** from the pull-down menu.



The Other Manuals

The SIMATIC PCS 7 OSx manual set consists of several manuals. If you cannot find the information that you need in the *SIMATIC PCS 7 OSx @aGlance User Manual*, refer to these other manuals:

- *SIMATIC PCS 7 OSx System Administration Manual* This manual describes how to configure network nodes and printers, and how to archive data and back up files.
- *SIMATIC PCS 7 OSx Process Configuration Manual* This manual describes the primary tasks required to configure your OSx station for controlling your process.
- *SIMATIC PCS 7 OSx Graphical Editor Manual* This manual describes how to create the graphical displays used with OSx.
- *SIMATIC PCS 7 OSx Hardware Manual* This manual describes the various hardware components of the system and how to install them.
- *SIMATIC PCS 7 OSx Reports Manual* This manual describes how to create reports on your process and your OSx configuration.
- *SIMATIC PCS 7 OSx Recipe Manual* This manual describes advanced configuration tasks involving the creation and use of recipes.
- *SIMATIC PCS 7 OSx Batch Programming Manual* This manual describes advanced configuration tasks involving the use of BCL, the Batch Control Language, and creating batch programs.
- *SIMATIC PCS 7 OSx Operator Manual* This manual describes how to carry out the various tasks that the process operator must do when the system is in the Operate state. You may photocopy all or portions of this manual as a reference for your operators.
- *SIMATIC PCS 7 OSx Interface to S5 Controllers Manual* This manual describes the OSx interface with SIMATIC S5 controllers.
- *SIMATIC PCS 7 OSx Interface to S7 Controllers Manual* This manual describes the OSx interface with SIMATIC S7 controllers.
- *SIMATIC PCS 7 OSx Library Manual* This manual describes function blocks used to program the S7-400 controllers to interface with OSx.

Be sure to check the Readme File for information that did not become available until after the publication deadlines for the OSx manuals. Select **Help->About OSx** from the main menu bar, and then click on the **Show Readme** button at the bottom of the About OSx dialog box.

Optional SIMATIC PCS 7 Features

The following manuals are available for optional OSx features.

- *[SIMATIC PCS 7 OSx Remote Data Transfer Manual](#)* This manual describes the remote data transfer feature, which allows you to transmit data collected from the process by an OSx station to an Oracle database on the remote computer for historical records and other purposes.
- *[SIMATIC PCS 7 OSx X Terminal User Manual](#)* This manual describes how to connect and operate an X terminal as an extension of an OSx station.

Using SIMATIC PCS 7 OSx @aGlance

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1.1 Defining SIMATIC PCS 7 OSx @aGlance

What Can @aGlance Do for Me?

SIMATIC PCS 7 OSx @aGlance enables you to read and write to the OSx database from an application running on a Windows, Linux, UNIX, or VMS computer (Figure 1-1). In this context, @aGlance acts as a server, which is a system or program that provides services to a client. The client is the computer that requests and receives information from the server. OSx @aGlance is available in two versions, one for one client and one for up to ten clients.

The OSx @aGlance option provides easy and inexpensive access to process data for managers, accountants, and others who need such data. OSx @aGlance translates and transmits data in the correct format for the application program. If the client application is a spreadsheet (such as Excel), you can read OSx tag data and historical trend data directly into the spreadsheet. You can also write new values to selected tags.

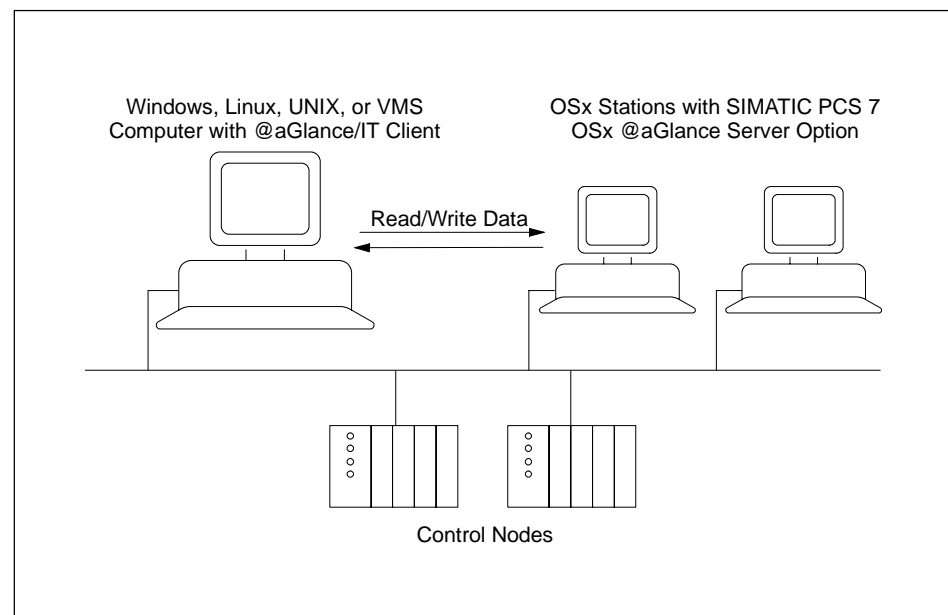


Figure 1-1 @aGlance on the SIMATIC PCS 7 OSx System

Any application that is compatible with Axeda's @aGlance/IT can communicate with the @aGlance server.

Siemens offers two @aGlance client packages as options. These are the Standard Edition client and the Professional Edition client.

The @aGlance/IT **Standard Edition** includes the following components:

- Add-ins for Lotus 1-2-3 and Excel provide access to @aGlance/IT client functions as spreadsheet macro functions. Ease-of-use tools allow you to browse through process data without ever writing a macro function.
- The @aGlance/IT DDE Bridge allows all DDE client-capable applications, including Excel, and Lotus 1-2-3, to “hot link” to process information systems through @aGlance/IT. Client applications receive notification of changes in process values.
- @aGlance/IT client applications developed using NetOLE, the @aGlance/IT VB custom control, or the @aGlance/IT C API can be deployed.

In addition to the features of the Standard Edition, the @aGlance/IT **Professional Edition** enables you to develop clients in Visual Basic and Visual C/C++. Once you have developed the Visual Basic and C/C++ programs using the Professional Edition, you can deploy them using the @aGlance/IT Standard Edition.

- The @aGlance/IT client API is implemented as a VB custom control (VBX). This enables the developer to use all the standard VB language features, such as Variant variable types and On Error GOTO when dealing with @aGlance/IT function. All client functions except monitoring are supported.
- All features of the client C language API are available to the developer.

Defining SIMATIC PCS 7 OSx @aGlance (continued)

What Components Are Required?

The components that you need to link a client with the OSx server are listed below. [Figure 1-2](#) shows how the following components interact to allow communication between a client application and the OSx server:

- Installed and operating SIMATIC PCS 7 OSx system.
- Connection for the Windows, Linux, UNIX, or VMS computer to the Industrial Ethernet, using the TCP/IP network protocol.
- Application, such as Excel or Lotus 1-2-3.
- Application @aGlance/IT add-in from your Siemens distributor, if necessary.
- @aGlance Client Runtime program (for DDE support for Windows applications) from Axeda, Inc.
- The SIMATIC PCS 7 OSx @aGlance option from your Siemens distributor.

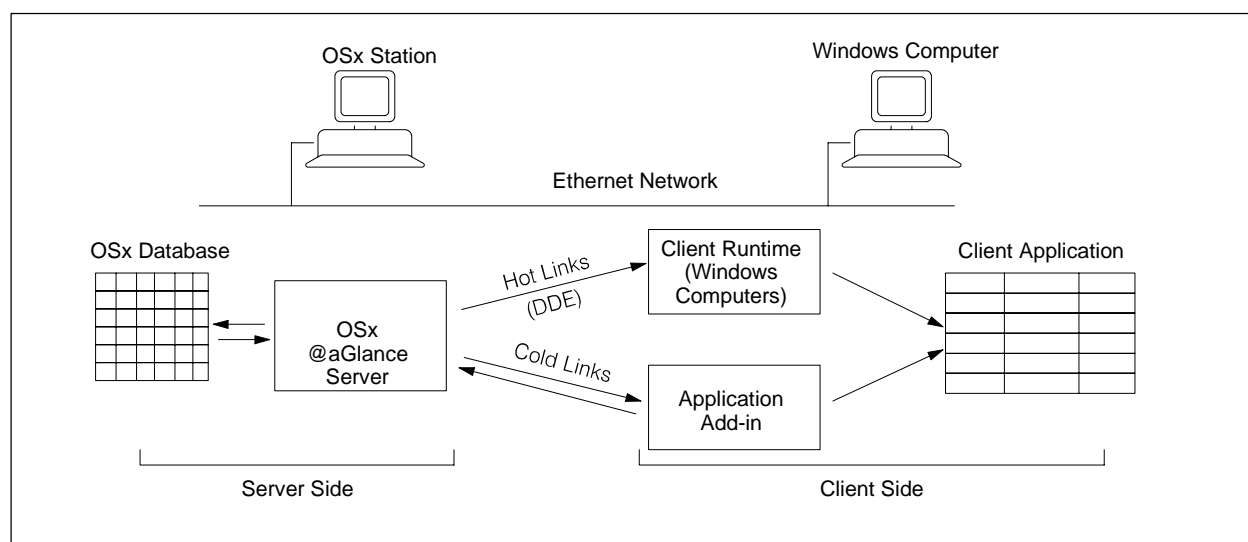


Figure 1-2 SIMATIC PCS 7 OSx @aGlance Data Exchange with Windows Clients

What Are the Capabilities?

With the components listed above, SIMATIC PCS 7 OSx @aGlance supports the following types of information exchange.

- Hot link — automatically retrieves tag data as that data changes.
- Cold link — reads tag data on demand.
- History retrieval — reads trend data on demand.
- Write operation — allows you to write new values to selected tags.

1.2 Planning the SIMATIC PCS 7 OSx @aGlance Setup

Determining Hot Links

The hot link (or monitor) provides your application with tag data that is updated every time the tag values change. For a Windows application, the @aGlance/IT Client Runtime program must be running in order to enable hot links. This is not necessary for a Linux or UNIX application. Before you establish the hot links, you need to consider these points.

- OSx @aGlance supports up to 16 tag points per hot link.
- Up to 256 hot links are permitted for each client.
- Up to ten clients can connect to the OSx @aGlance server.

Choosing the Host Station

You must purchase the @aGlance option for each station that you want to use as an @aGlance server. Having more than one server on the system provides you a backup capability in the event that one station acting as server fails. You can also divide the data acquisition tasks, allowing one server to provide trending data, for example, while another provides hot links, and yet another provides cold links.

Use these guidelines when you determine which OSx stations are to be servers.

- **OSx Station Role** — In most cases, do not choose the primary, which is the busiest station on the system. Choose a non-primary unless you anticipate extensive work with trending; in this case, the primary can supply trending data most efficiently. Because of the configuration work being done on the station with the sysadmin role, the sysadmin may not be a good choice as a server. Any other role is acceptable except for out_of_service.
- **Connection Type** — Either an operator or a supervisory station is an appropriate choice for a server.

You can change the station acting as server at any time by changing address information within the client. The new station must have the @aGlance option installed.

Obtaining IP Addresses

When you configure the application client, you need to know the IP address of each station that is to be a server. If the OSx station communicates on two networks, you need both network IP addresses.

1.3 Installing the SIMATIC PCS 7 OSx @aGlance Option

Installation: OSx Side

If you ordered @aGlance with your SIMATIC PCS 7 OSx system, it is already installed for you. If you ordered the @aGlance option at a later date, follow the steps below to install it.

1. If OSx is running, select **Controls->Logon** on the menu bar and log in as root.
2. Click **Controls->Change System State** and select **Shutdown OSx**.
3. Press the left mouse button to bring up a root menu, select **New Xterm**, and log in as root.
4. Insert the CD with the title **SIMATIC PCS 7 OSx V4.1.2, Disk 2** in the CD-ROM drive.
5. Type `install.new` and press **Enter**.
6. The screen prompts you for the SIMATIC PCS 7 OSx Options Activation Key. Enter the key exactly as it appears on the options license. A list of options appears that includes all options that are currently licensed for the station. For example:

Number	Installed?	Licensed?	Description
1	Yes	Yes	E4.1.2 Supervisor S/W
2	No	No	E4.1.2 HP X Terminal S/W
3	Yes	Yes	E4.1.2 Tektronix X Terminal S/W
4	No	No	E4.1.2 RDT Oracle S/W
5	No	No	E4.1.2 RDT Sybase S/W
6	No	No	E4.1.2 One User OSx @aGlance Server S/W
7	Yes	Yes	E4.1.2 Ten User OSx @aGlance Server S/W

If this is a supervisory station, or if other options have been previously installed, the above list appears first, and you are then prompted to enter the new OSx Options Activation Key. Your new key includes all previous options licensed for this station, as well as @aGlance.

Installation of @aGlance begins and may take several minutes.

7. When the installation is complete, the following prompt appears:

**Enter the number of an option to install/re-install, or enter
a new OSx Options Activation Key or enter q to quit.**

Type `q` to quit and press **Enter**.

8. Reboot the system. The station is now ready to use OSx @aGlance.

Installing the SIMATIC PCS 7 OSx @aGlance Option (continued)

Installation: Client Side

You must install all the @aGlance/IT software and the application program on the Windows, Linux, UNIX, or VMS computer that is to be the client. Refer to the user documentation that accompanies these products and follow these general guidelines.

- Install and run the application, such as Excel.
- Edit the **hosts** file on the client computer to add the IP address(es) of the OSx station.

If you have two networks installed for OSx, you may want to enter an address for each network, using the characters A and B to differentiate. For example, your hosts file may have the following entries:

```
204.109.10.250    Station1A {OSx Station1, Network A}
224.199.11.240    Station1B {OSx Station1, Network B}
```

If your client computer is connected to Network A, you can connect to OSx Station1 through Network A by using the Server Name Station1A. If your client computer is connected to Network B, you can connect to OSx Station1 through Network B by using the Server Name Station1B.

If you connect your client computer to the two networks through a T-box, then you can easily change from one network to the other in the event of a network failure.

- If applicable, install any additional @aGlance products needed by the application, such as the Excel add-in. Do the appropriate application-specific configuration, such as specifying names for the OSx stations. Since your application may be case-sensitive, make sure that the case matches that of the station name you specify in the **hosts** file. The order of the station names may determine the order that the client attempts to access them. If a network fails, you may want to reorder the station names to avoid timeout delays. If you have installed two networks, be sure to enter a station name for each network. Follow the conventions above, using A and B to differentiate between the two networks.
- If you are using a Windows application and want to establish hot links with your process, install the @aGlance Client Runtime option.

1.4 Using the SIMATIC PCS 7 OSx @aGlance Functions

This section describes the basic read/write commands supported by the OSx @aGlance server and lists the parameters that the client application must supply to the server. Consult the documentation that accompanies your client software for details about how your client supplies these parameters. [Appendix A](#) provides examples for using @aGlance with Excel.

NOTE: SIMATIC PCS 7 OSx does not support client commands that write to trend data or that read trend statistics.

OSx Login

When you need to write data to a tag, you must log in to OSx. In order to log in, your client must provide the server with your OSx User ID and password. You do not need to log in when you only want to read data.

The OSx @aGlance server requires the following parameters from the client.

- Server Name — the prefix `osx` must appear in front of the OSx station name.
- Command — enter the following:

`client_login`
- Input — the input must include the OSx User ID and the OSx password.

Getting Station Roles

To determine the roles of the OSx stations, your client must provide the server with the following parameters.

- Server Name — the prefix `osx` must appear in front of the OSx station name.
- Command — enter the following:

`node_roles`
- Output — designate a location for the list of station names and roles.

Using the SIMATIC PCS 7 OSx @aGlance Functions (continued)

Reading Null Text Strings

Some clients read a null text string as no change and do not update the value. For example, if the value of a TEXT tag changes from “Boiler 1 On” to null (empty), then some clients see no change and continue to read the value as “Boiler 1 On.” The **Null2Blank** command replaces the null value with blanks that these clients can read as a changed value. Whenever you intend to request data from a TEXT tag for either a hot or a cold link, run the **Null2Blank** command from the **Command** function first.

- **ServerName** — the prefix `osx` must appear in front of the OSx station name.
- **Command** — enter the following:

```
null2blank
```

NOTE: **Client_Login**, **Node_Roles**, and **Null2Blank** are server-specific extensions to the @aGlance **Command** function. Refer to your client documentation to determine how to send these commands to OSx @aGlance.

Getting Tag Names

To retrieve a list of tag names, your client must provide the server with the following parameters.

- **Server Name** — the prefix `osx` must appear in front of the OSx station name.
- **Match String (optional)** — enter a text search string. You can use the standard wildcard `*` (match any) and `?` (match single) characters.
- **Start Index (optional)** — enter an integer. The server uses the index as a placeholder when there is more data to return than there are output locations. A value of zero directs the server to return values starting at the beginning of its database.
- **Output** — designate a location for the list of tag names.
- **Tag Count** — enter an integer that represents the number of entries in the output.

Getting Attribute Names

To retrieve a list of attribute names for a set of tags, your client must provide the server with the following parameters.

- **Server Name** — the prefix `osx` must appear in front of the OSx station name.
- **Tag Names** — designate the tag names for the requested data values.
- **Match String (optional)** — enter a text search string. You can use the standard wildcard `*` (match any) and `?` (match single) characters.
- **Start Index (optional)** — enter an integer. The server uses the index as a placeholder when there is more data to return than there are output locations. A value of zero directs the server to return values starting at the beginning of its database.
- **Output Range** — designate a location for the list of attribute names.
- **Tag Count** — enter an integer that represents the number of tags.
- **Attribute Count** — enter an integer that represents the number of entries in the output.

Getting Tag Values

To retrieve a list or a table of tag:attribute data values, your client must provide the server with the following parameters.

- **Server Name** — the prefix `osx` must appear in front of the OSx station name.
- **Tag Names** — designate the tag names for the requested data values.
- **Attribute Names** — designate the attribute name or the attribute:bit name for the requested data values. For example, you can use the status attribute alone, or you can use a bit name such as `status.active` or `status.1`. The bit specified must be in the **bit_defs** relation for that attribute.
- **Output Range** — designate a location for the list of data values.
- **Error Information (optional, but recommended)** — designate a location to display error messages. This location must be the same size as the output location.
- **List Counts** — enter integers to represent the number of tag names and the number of attribute names. Refer to the user documentation that accompanies your client software for more detailed information.

Using the SIMATIC PCS 7 OSx @aGlance Functions (continued)

Getting Trend Data

To retrieve a list of actual historical trend points for a time period, you must first be logged in with your client login. Your client must provide the server with the following parameters.

- Server Name — the prefix `osx` must appear in front of the OSx station name.
- Tag Name — designate the tag name for the requested data values.
- Attribute Name — designate the bit name or the attribute name for the requested data values. For example, you can use a bit name such as `status.active` or `status.1`, or you can use the status attribute alone. If you specify an attribute name, @aGlance attempts to retrieve analog trend data. If you specify a bit name, @aGlance attempts to retrieve digital trend data.

The text following the dot is the bit name. The number following the dot is a number from 1 to 16 corresponding to the bit number in the status attribute. Refer to the chapter on defining tags in the [SIMATIC PCS 7 OSx Process Configuration Manual](#) for more information about bit names.

- Start Index (optional) — enter an integer. The server uses the index as a placeholder when there is more data to return than there are output locations. A value of zero directs the server to return values starting at the beginning of its database.
- Output Range — designate a location for the set of trend data.

-
- **Starting Time, Ending Time** — for each of these, enter a character string with a maximum total length of 21 characters that represents the starting or ending point for the historical trend.

You can specify time using a number with one to six digits. The system accepts a one or two digit number as hours; a three or four digit number as hours and minutes; and a five or six digit number as hours, minutes, and seconds. A colon between fields is optional. If AM or PM is not specified, the system defaults to a 24-hour clock.

The following are examples of legitimate start or end times:

10AM FRI

10AM FRI + 2 DAYS

10:10:00 MON NEXT DAY

For more information, refer to the appendix on time strings in the [*SIMATIC PCS 7 OSx Reports Manual*](#).

- **Time Range (optional)** — designate a location that will display an actual time string for each set of samples when they are received from OSx. OSx formats these values so that you can use them as the Starting Time in subsequent commands.
- **Status Range (optional, but recommended)** — designate a location to display error messages. This location must be the same size as the output location.
- **List Counts** — enter integers to represent the number of tag names and the number of attribute names. Refer to the user documentation that accompanies your client software for more detailed information.

Using the SIMATIC PCS 7 OSx @aGlance Functions (continued)

Getting Interpolated Trend Data

To retrieve a list of historical trend values interpolated across a time period, you must first be logged in with your client login. Your client must provide the server with the following parameters.

- **Server Name** — the prefix `osx` must appear in front of the OSx station name.
- **Tag Names** — designate the tag names for the requested data values.
- **Attribute Names** — designate the bit names or the attribute names for the requested data values. For example, you can use a bit name such as `status.active` or `status.1`, or you can use the status attribute alone. If you specify an attribute name, @aGlance attempts to retrieve analog trend data. If you specify a bit name, @aGlance attempts to retrieve digital trend data.

The text following the dot is the bit name. The number following the dot is a number from 1 to 16 corresponding to the bit number in the status attribute. Refer to the chapter on defining tags in the [SIMATIC PCS 7 OSx Process Configuration Manual](#) for more information about bit names.

- **Output Range** — designate a location for the set of trend data.
- **Starting Time** — enter a character string with a maximum total length of 21 characters to represent the starting point for the required historical trend.

You can specify time using a number with one to six digits. The system accepts a one or two digit number as hours; a three or four digit number as hours and minutes; and a five or six digit number as hours, minutes, and seconds. A colon between fields is optional. If AM or PM is not specified, the system defaults to a 24-hour clock. For examples, see the “Getting Trend Data” portion of [Section 1.4](#).

- **Interval Time** — enter a text string to represent the time interval between samples of historical data.

- **Time Range (optional)** — designate a location to display an actual time string for each set of samples when they are received from OSx. OSx formats these values such that you can use them as the Starting Time in subsequent commands.
- **Status Range (optional, but recommended)** — designate a location that will display error messages. This location must be the same size as the output location.
- **Count** — enter an integer to represent the number of points for which values are being requested. Refer to [Figure 1-3](#) for an example.
- **Time Count** — enter an integer to represent the number of time intervals. Refer to [Figure 1-3](#) for an example.

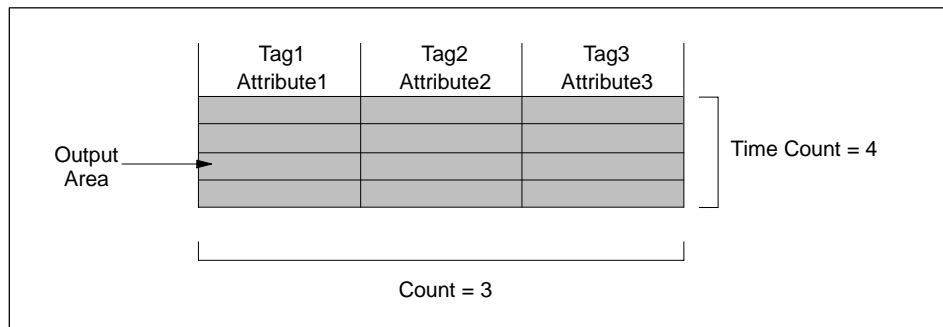


Figure 1-3 Relationship of Count to Time Count

Using the SIMATIC PCS 7 OSx @aGlance Functions (continued)

Writing Tag Values

To write a list or a table of tag:attribute data values, you must first be logged in with your client login. Your client must provide the server with the following parameters.

- Server Name — the prefix `osx` must appear in front of the OSx station name.
- Tag Names — designate the tags you are writing.
- Attribute Names — designate the attributes you are writing. Write data only to attributes of process I/O tag types, (for example, DO, LOOP, or AI). The process I/O tag types are described in the chapter on defining tags in the [SIMATIC PCS 7 OSx Process Configuration Manual](#).

Because Excel and Lotus 1-2-3 convert all integer values to floating point values, you can only write floating point data. This means that you cannot write integer or bit values to attributes of selected OSx tags from these applications; a data type mismatch would occur. Refer to the chapter on defining tags in the [SIMATIC PCS 7 OSx Process Configuration Manual](#) for valid attributes. You can only write to attributes having a domain of FLOAT32, STRING, or CISTRING.



WARNING

Writing data to tags other than process I/O tags may result in database values that could cause unpredictable operation by the controller.

Unpredictable operation by the controller can cause death or serious injury to personnel and/or damage to equipment.

When you write data, write only to one of the process I/O tags.

-
- Input — enter the values that you are writing.
 - Status Range (optional, but recommended) — designate a location to display error messages. This location must be the same size as the input location.
 - List Counts — enter integers to represent the number of tag names and the number of attribute names. Refer to the user documentation that accompanies your client software for more detailed information.

OSx logs all tag value changes to the OSx database in the Operator Change Log with the last eight characters of the IP address in the place of the User ID.

Using the SIMATIC PCS 7 OSx @aGlance Functions (continued)

Monitoring Tag Values (Hot Links)

To establish a hot link that monitors a list or a table of tag:attribute data values continuously, your client must issue function calls to initiate the hot link, to retrieve the data, and to close the hot link. Refer to the user documentation that accompanies your client software for more detailed information about how to issue these functions.

Your client must provide the server with the following parameters in one or more of the function calls.

- **Server Name** — the prefix `osx` must appear in front of the OSx station name.
- **Tag Names** — designate the tag names for the requested data values.
- **Attribute Names** — designate the attribute names for the requested data values.
- **Output** — designate a location for the list of data values.
- **List Counts** — enter an integer to represent the number of tag names, the number of attribute names, the number of values requested, and error information. These lists must all be the same size.
- **Error Information** — designate a location to display error messages.
- **Monitor_Type** — designates whether monitoring will be done by polling or by event. A non-null value indicates polling.
- **Monitor_ID** — identifies the monitor request for the monitor cancel function. A value of zero indicates that all monitoring is to be cancelled.

Hot Link Update Delay

For Linux, UNIX, and Windows (Excel) clients, it is recommended that you process updates from the server at the rate that the server is sending them. This helps prevent server/client communication problems, which could cause the server to shut down.

You have the option of configuring a millisecond delay in the @aGlance server, which delays monitor update messages to the client. The default is 500 ms (0.5 seconds), and the range is 0 to 999 ms. This delay allows the client to remove incoming messages from the message buffer, making room for the next message(s) from the server. This reduces the possibility of the client's becoming unable to keep up with the server processing. For information about changing the length of the delay, contact the Siemens Energy & Automation, Inc., Technical Services Group in the U.S.A. at 800-333-7421. In other countries, call 49-911-895-7000. ■

Linux and UNIX clients need to use the `monitor_type` and `interval` parameters of the Monitor function for best performance with the initial release of @aGlance. The `monitor_type` must be non-null to indicate polling.

When using hot links, reduce the number of points per hot link as the rate of change of the points that you are monitoring increases. This allows the server to keep up with rapidly changing data and to send that information to the client.

Ending a Session

To end an @aGlance session, you must enter the server name, with the prefix `osx`, in the client disconnect function.

1.5 Troubleshooting

Table 1-1 describes various troubleshooting strategies for OSx @aGlance. If you need further assistance, call the Siemens Technical Services Group in the U.S.A. at 800-333-7421. In other countries, call 49-911-895-7000.

Table 1-1 OSx @aGlance Troubleshooting

Problem	Solution
OSx goes to Offline state, and you get a Network Transport Error message.	When OSx returns to Operate state, try again to read data. If you want to write to tag values, you must log in again.
Unexplained Network Transport Error message appears.	Try requesting data again before assuming an error. Then check the state of the OSx station, which may have failed, developed communication problems, or changed to the Offline state. Verify the client configuration of the OSx station address.
With two OSx networks installed, either one network or one network card in the OSx station fails.	You must re-register station names and addresses before using the alternate network. Use the A/B network designation after the station name. For Linux, UNIX or VMS users: contact your system administrator. For Windows users, follow these steps: <ol style="list-style-type: none"> 1. Either switch cables on the client to the other network, or toggle the T-Box switch to the other network. 2. Access the Windows Network Setup (in the Program Manager) and configure the client to use the other network. 3. Exit and restart Windows.
A Network Transport Error (Remote system error; Connect request refused) appears.	This indicates a network problem, such as pulled or broken cable at the client. This can cause the @aGlance server to shut down at the OSx station where you are connected. Correct the problem and then connect to another station where @aGlance is loaded to resume your @aGlance work. In order to restart the server on the original station, transition OSx to the Offline state and then back to Operate again. To avoid setting all OSx stations Offline, you can follow these steps instead. <ol style="list-style-type: none"> 1. Set the station where the server has shut down to Out_of_Service. 2. Shut down the station by selecting Controls→Change System State on the menu bar and choosing Shutdown OSx and Linux. 3. When the Power down message appears, power down the station and power it back up again after 15 seconds. When the station rejoins the system, it automatically resynchronizes with the primary and restarts the OSx @aGlance server.
OSx host station goes to Failed state.	You must re-register station names and addresses from the client side.
Unexpected data, such as #N/A (data not available), #REF (communication problem), or #NAME? (invalid syntax), appears in spreadsheet cells.	It is probably a communications failure. Resolve the network problem and reissue the cold link command. Hot links clear automatically when you view them. If #NAME appears in a cell instead of values expected, check the @aGlance/IT DDE server message window for a message indicating that the server has gone out of service.
<i>Table continues on next page.</i>	

Table 1-1 PCS 7 OSx @aGlance Troubleshooting (continued)

Problem	Solution
Invalid Parameters message appears.	Some fields, such as AttrRange, are optional for the client but not for OSx. Check Section A.3 for special restrictions and fill in all necessary fields. Also consult your online help or client software manuals.
Tag values do not agree exactly with OSx database.	Expect rounding of values in data retrieval.
When an excessive number of RBE messages are generated in OSx, your client may not be able to keep up. Hot links may stop updating.	Close and reopen the application and/or use fewer hot links or points per hot link to lessen the load.
Server fails and @aGlance does not work.	<p>If OSx is still running, change system state to Offline and then back to Operate. If you want to write to tag values, you must log in again on the client.</p> <p>In order to restart the server on the original station, transition OSx to the Offline state and then back to Operate again. To avoid setting all OSx stations Offline, you can follow these steps instead.</p> <ol style="list-style-type: none"> 1. Set the station where the server has shut down to Out_of_Service. 2. Shut down the station by selecting Controls→Change System State on the menu bar and choosing Shutdown OSx and Linux. 3. When the Power down message appears, power down the station and power it back up again after 15 seconds. When the station rejoins the system, it automatically resynchronizes with the primary and restarts the @aGlance server.
Text values do not change to reflect an empty string.	Use the Null2blank command to force client recognition of empty strings. Refer to page 1-10 , “Reading Null Text Strings.”
A hot link appears to have failed. Values are not updating.	<p>To verify that the hot link has failed, request a tag value through a cold link and compare it with the hot link value.</p> <p>Verify that the number of hot links has not exceeded 256.</p> <p>Verify that the number of tag points per hot link has not exceeded 16.</p> <p>Check client error messages for corrective procedures.</p>
The aag_admin utility does not execute.	@aGlance does not require this utility.
Client unable to communicate with server. Error message AAG-E-SCKSET appears.	<p>Add the following code to one of the source files of the client, and recompile the client:</p> <pre>int getdtablesize(void) { return(60) }</pre> <p>This overrides the standard library function getdtablesize() and returns a value that the @aGlance libraries can successfully use. This affects only those clients that run on an OSx station.</p>

Appendix A

Using @aGlance with Excel

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A.1 Configuration Hints for Excel

Recommended Hardware and Software

The following components are the minimum requirements for using Excel with @aGlance/IT.

- 80386 or higher computer
- Windows 95, Windows 98, Windows NT 4.0, or Windows 2000
- Excel 5.0 or higher
- Connection for the Windows, Linux, UNIX, or VMS computer to the ethernet, using the TCP/IP network protocol
- Application @aGlance/IT Standard Edition V3.2 or higher from your Siemens distributor for both Excel Addin and DDE connections to miscellaneous Windows applications, if necessary

Entering Station Names and Addresses

The Excel add-in requires you to designate the station name and address for the server in the **hosts** file and in the @aGlance/IT Configuration Utility on the client computer.

Editing the Hosts File Use any ASCII editor to edit the **hosts** file on the client computer to add the TCP/IP address(es) of the OSx station. If you have two networks installed for OSx, you may want to enter an address for each network, using the characters A and B to differentiate. For example, your **hosts** file may have the following entries:

```
204.109.10.250    Node1A    {OSx Node1, Network A}
224.199.11.240    Node1B    {OSx Node1, Network B}
```

If your client computer is connected to Network A, you can log in to OSx Station1 by connecting to Node1A. If your client computer is connected to Network B, you can log in to OSx Station1 by connecting to Node1B.

If you connect your Excel computer to the two networks through a T-box, then you can easily change from one network to the other in the event of a network failure.

Editing the @aGlance/IT Configuration Utility To open the @aGlance/IT Excel add-in in your Windows Program Manager window, click **Start->Programs->@aGlance->@aGlance/IT Administration**. The Administration dialog box appears (Figure A-1). Enter the station name for the server. If your SIMATIC PCS 7 OSx system has two networks, make two entries, following the conventions noted above for the **hosts** file. Make sure that the case matches that of the station name you specify in the **hosts** file. For the Transport protocol, select **ONC**. When you select the **Add** button, the station name appears in the Server Host=Transport field.

The order of the station names in the Server Host window determines the order in which @aGlance attempts to access them. If a network fails, you may want to reorder the station names to avoid timeout delays.

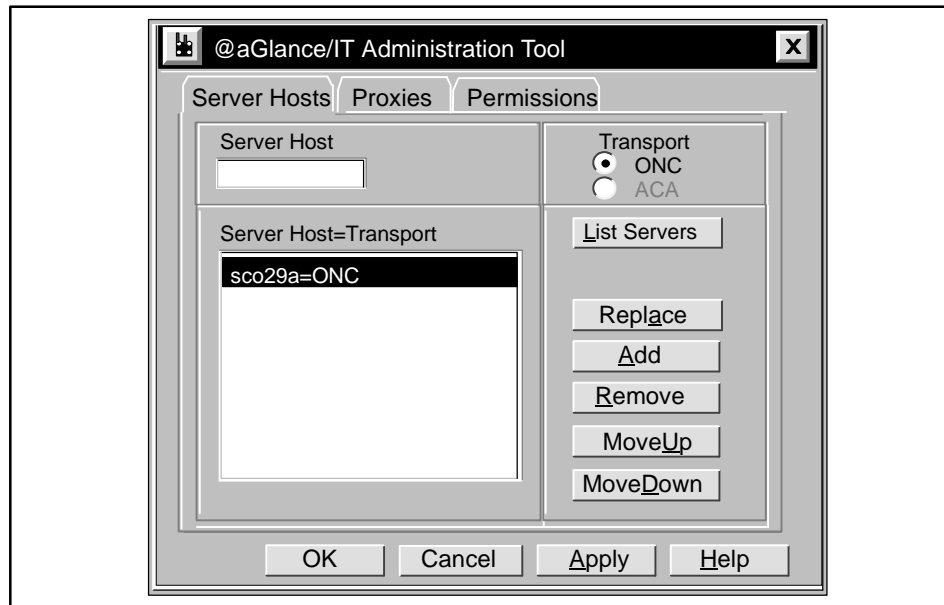


Figure A-1 Using the @aGlance/IT Administration Tool

Adding @aGlance to the Tool Bar

If the @aGlance menu bar selection does not show up in the Excel tool bar, you can add it by following these steps.

1. Open an Excel spreadsheet.
2. Select **Tools, Addins**. An Add-in dialog box appears.
3. Click the **@aGlance/IT Version 3.2 Addin** item in the Add-ins list. An X should appear in the box preceding the item.
4. Select **OK**. Excel adds the @aGlance item to the menu bar.

A.2 Using the @aGlance Option

Opening a Session

To open an @aGlance session with Excel, refer to your documentation for Excel and the @aGlance/IT add-in, and follow the steps below.

1. Open Windows and run the Excel program.
2. Open a spreadsheet file.
3. If you have already created a sheet that contains hot links, the Excel add-in displays one or both of the following prompts:

This document contains links. Re-establish links? or

Remote data not accessible. Start application "AAGDDE.EXE"?

In either case, click **Yes** to resume data acquisition.

4. Continue your spreadsheet operations. The procedures for defining cold links and new hot links are described below.

Working within a Session: Cold Links

If your @aGlance/IT add-in software is installed, you can now begin acquiring data from the OSx server and recording it in your spreadsheet. Consider these guidelines for cold links.

- Click **@aGlance** on the Excel menu bar to display the @aGlance/IT options ([Figure A-2](#)). If @aGlance does not appear on the menu bar, see [page A-3](#) for a procedure that you can use to add it to the menu bar.

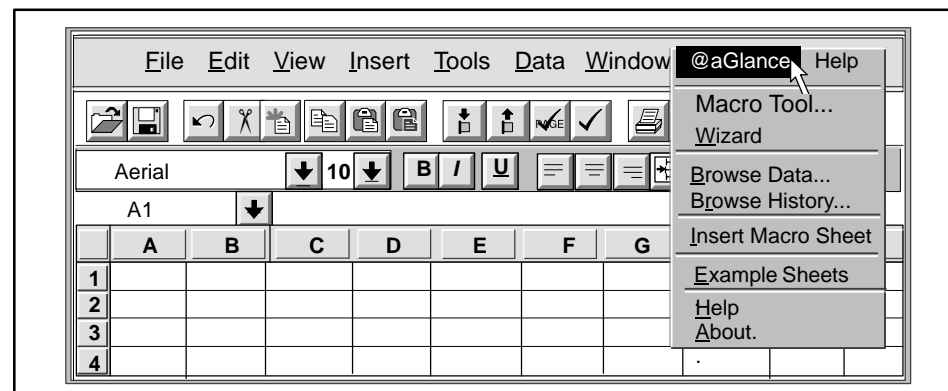


Figure A-2 Selecting the @aGlance Options

- Click **Macro Tool...** to display the first @aGlance/IT macro function. You can click the display tool to see a list of all the functions (Figure A-3).
- Click the **Command** function and enter the **Node_Roles** command to make sure that the station has the correct role. Do not attempt to acquire data from a station that is out of service.
- If you need to write tag data as well as read it, click the **Command** function and enter the **Client_Login** command to log in to OSx. Use your OSx User ID and password.
- Refer to [Section A.3](#) for a description of the SIMATIC PCS 7 OSx @aGlance cold link functions.

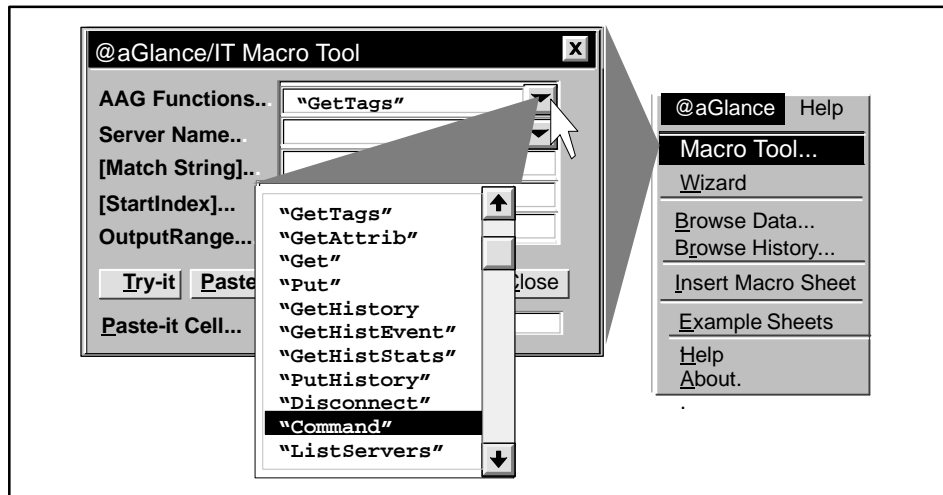


Figure A-3 Displaying the @aGlance Macro Functions

Using the @aGlance Option (continued)

Working within a Session: Hot Links

If you have installed the @aGlance/IT Client Runtime option, you can create up to 256 hot links to the OSx database. Edit a cell and enter the hot link syntax for acquiring the necessary tag data. For example, to create a hot link to the attribute of one tag, enter the following:

```
=AAGDDE|osx<node_name>! '<tag:attribute>'
```

where `node_name` is the name of the OSx station, and `tag:attribute` is the tag and attribute to which you are creating the hot link.

For more information, consult the user documentation or the online help that accompanies your Excel add-in software.

[Figure A-4](#) shows an example of a hot link in a spreadsheet cell. Cell A1 contains the hot link command, which is displayed in the cell content field:

```
=AAGDDE|osxnode1!'lp_0.pv lp_1.pv lp_2.pv lp_3.pv'
```

This hot link requests the process variables for four loops in a controller. The process variable data is displayed in cells A1–A4 and is updated as the process variables change.

NOTE: When you are using the macro tool, hot links that you have configured on that spreadsheet do not update until you close the macro tool.

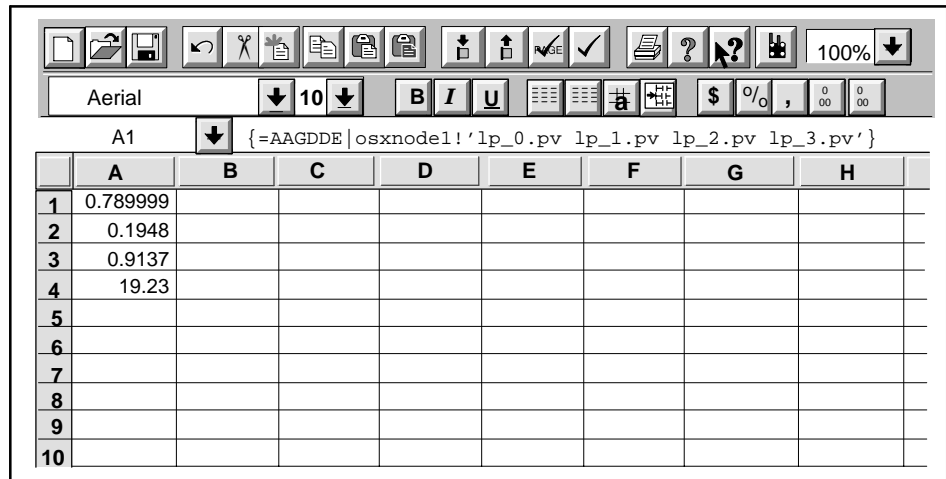


Figure A-4 Cell Containing Example of Hot Link Syntax

Using the @aGlance Option (continued)

Troubleshooting Hot Links

If you have trouble with a hot link, first verify spelling and punctuation in the AAGDDE hot link command. You can use the cold link macro tools **Get Tags** and **Get Attributes** to check the spelling of tag and attribute names.

You can also view the @aGlance/IT DDE Server window (Figure A-5), which displays error messages, but does not indicate which hot link command the error references. To view the DDE Server window, return to the Windows Program Manager window and select **Start->Programs->@aGlance->@aGlanceDDE Bridge**. The DDE Server window appears.

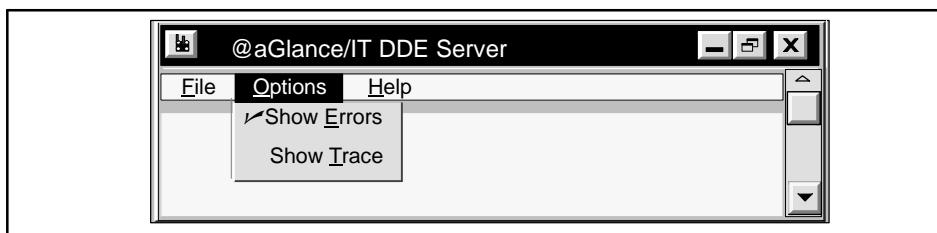


Figure A-5 @aGlance/IT DDE Server Window

If you attempt to open a 257th hot link (one more than the maximum allowed), OSx returns an initial value to the client. However, the system does not update the value, and the hot link is invalid. The @aGlance/IT DDE Server window displays the following error message:

All available hot links in use.

If a hot link appears to have failed (values are no longer changing as expected), do the following.

- Check the @aGlance/IT DDE Server window for error messages. Note that if several values are changing rapidly for each active hot link, error messages may have scrolled out of the window and beyond the range of the scroll bar.

A network transport error (**Remote system error; Connect request refused**) may indicate a network problem, such as pulled or broken cable at the client. This can cause the OSx @aGlance server to shut down. Refer to [Section 1.5](#) for help in restarting the server.

- Verify that the number of active hot links has not exceeded 256.

-
- Use the cold link macro **Get** to check the value(s) that should be changing. If the value returned by the macro does not match that displayed by the hot link, the hot link has failed. Refer to [Section 1.5](#) for help.

If you notice that a hot link does not seem to be updating properly when you open your spreadsheet, close the spreadsheet and reopen it to restart the hot links. Sometimes a hot link is disabled because OSx has been set to the Offline state and then back to the Operate state.

Hot Link Update Delay

For Linux, UNIX and Windows (Excel) clients, it is recommended that you process updates from the server at the rate that the server is sending them. This helps prevent server/client communication problems that could cause the server to shut down.

You have the option of using a configurable millisecond delay in the OSx @aGlance server, which delays monitor update messages to the client. The default is 500 ms (0.5 seconds), and the range is 0 to 999 ms. This delay allows the client to remove incoming messages from the message buffer, making room for the next message(s) from the server. This reduces the possibility of the client's becoming unable to keep up with the server processing. For information about changing the length of the delay, contact the Siemens Energy & Automation, Inc., Technical Services Group in the U.S.A. at 800-333-7421. In other countries, call 49-911-895-7000. ■

When using hot links, reduce the number of points per hot link as the rate of change of the points that you are monitoring increases. This allows the server to keep up with rapidly changing data and to send that information to the client.

Different Values for the Same Data Point

Monitors (hot links) and Excel @aGlance macro requests for data (cold links) may return different values for the same data point. Values greater than 32767 stored in the OSx database are displayed as negative values in a monitor request, while displaying correctly in an Excel @aGlance macro request.

For example, 32769 in the OSx database is displayed as 32769 in an Excel @aGlance macro request for a data point, but is displayed as -32767 in a monitor request for the same data point.

Version 3.2 of the Excel @aGlance Add-in corrects this problem.

Closing a Session

To end an OSx @aGlance session, you can use the macro tool and select the **Disconnect** function, or you can exit Excel. It is not necessary to log off OSx.

A.3 Using the @aGlance Cold Link Functions

Some Guidelines

Consider the guidelines below as you use the Excel add-in macros to create cold links to the process.

- When you display a macro function you must fill in the function fields before executing the function.
- For fields that do not require ranges, you can either type the data directly in the field or click a cell containing the appropriate data. In the example shown in [Figure A-6](#), select the ServerName field and either click cell A3 or type in the server name directly.
- For fields that are identified as ranges, click the spreadsheet cell, or range of cells, that contains the data that must go into the field. Excel places the cell reference, not the data, in the field. In the example shown in [Figure A-6](#), select the OutputRange field and drag the cursor on cells C3 to E5.
- Although most fields contained within brackets are optional, this is not invariably true for OSx. Fields that are not optional are identified within the text of this manual. In [Figure A-6](#), the AttrRange field appears in brackets, but it is not optional for OSx.
- When you are using the macro tool, hot links that you have configured on that spreadsheet do not update until you close the macro tool.
- If you need help, click the **Help** button. Be sure to refer to the function description in this manual for differences in how OSx handles the function.
- If you have trouble with a particular command, first check all tag and attribute names using the available macro tools, such as **Get Tags** and **Get Attributes**.

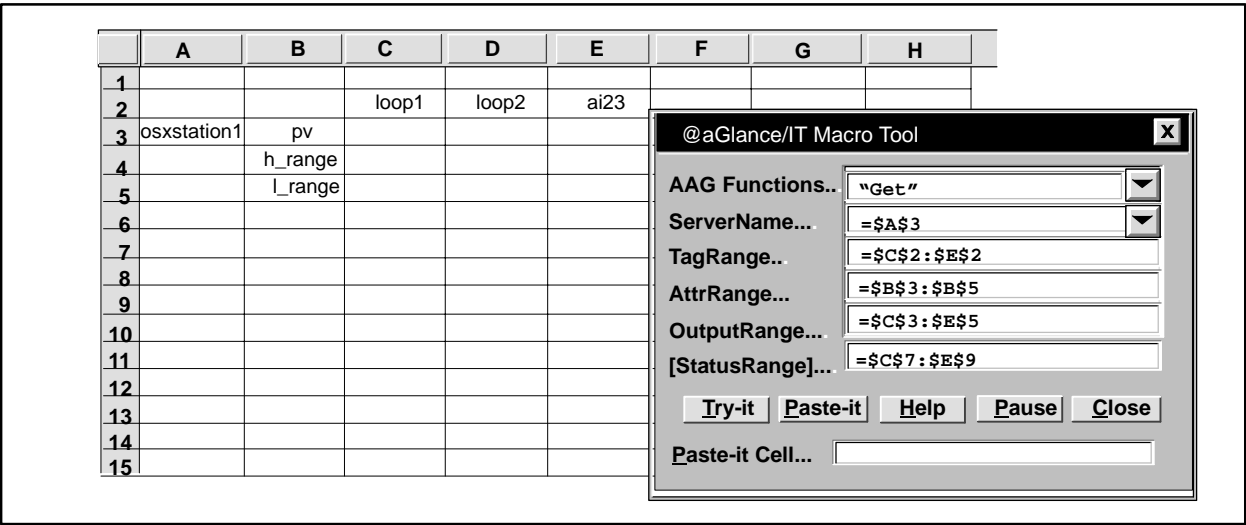


Figure A-6 Example of the Fields of a Macro Function

Using the @aGlance Cold Link Functions (continued)

Command

Use the **Command** function when you need to use the OSx custom functions **Client_Login**, **Node_Roles**, and **Null2blank**.

Client_Login Use the **Client_Login** command (Figure A-7) with the **Command** function when you need to write data to a tag. Use your OSx User ID and password. A login is not necessary when you only want to read data.

- **ServerName** field — the prefix `osx` must appear in front of the OSx station name.
- **Command** field — enter the following:
`client_login`
- **InputRange** field — if the User ID has a password, select two adjacent cells; one must contain the OSx User ID, and the other must contain the password. If the User ID does not have a password, select one cell for the User ID. To hide the contents of these cells from unauthorized users, refer to the user documentation for Excel.
- **OutputRange** field — OSx does not use this field for the **Client_Login** function.

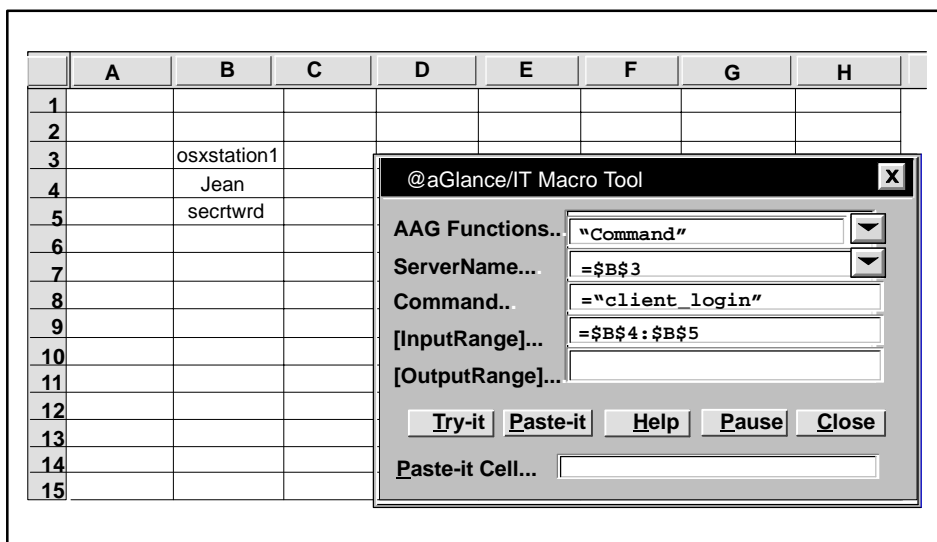


Figure A-7 Client_Login Function

Node_Roles Use the **Node_Roles** command (Figure A-8) with the **Command** function when you need to know the current roles for the OSx stations. If you send the **Node_Roles** command to a station that is out_of_service, all station are reported as out_of_service, even if they are not.

- ServerName field — the prefix `osx` must appear in front of the OSx station name.
- Command field — enter the following:
`node_roles`
- InputRange field — OSx does not use this field for this function.
- OutputRange field — select a double column of cells to display the names and roles of the Osx stations.

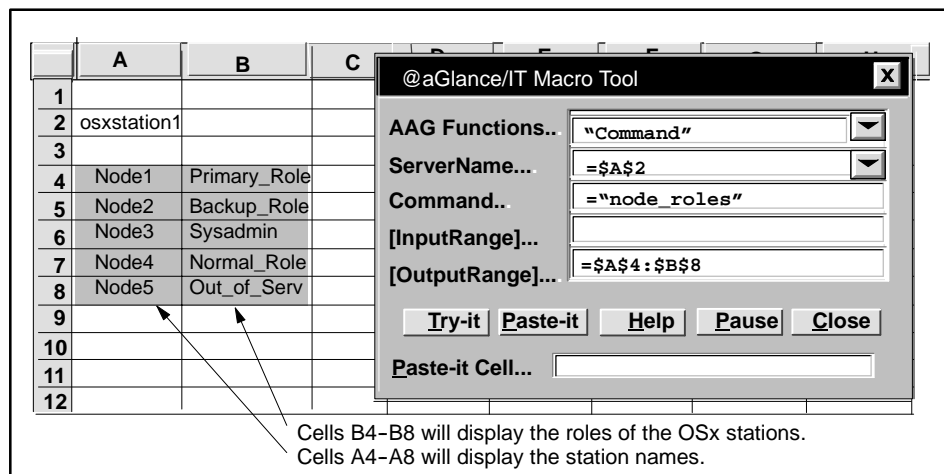


Figure A-8 Node_Roles Function

Using the @aGlance Cold Link Functions (continued)

Null2Blank Excel reads a null text string as no change and does not update the cell. For example, if the value of a TEXT tag changes from “Boiler 1 On” to null (empty), then Excel sees no change and continues to display “Boiler 1 On” in the cell. The **Null2Blank** command replaces the null value with blanks that Excel can read as a changed value. Whenever you intend to request data from a tag attribute that is a text string for either a hot or a cold link, run the **Null2Blank** command from the **Command** function first (Figure A-9).

- **ServerName** field — the prefix `osx` must appear in front of the OSx station name.
- **Command** field — enter `null2blank` in this field.
- **InputRange** field — OSx does not use this field for this function.
- **OutputRange** field — OSx does not use this field for this function.

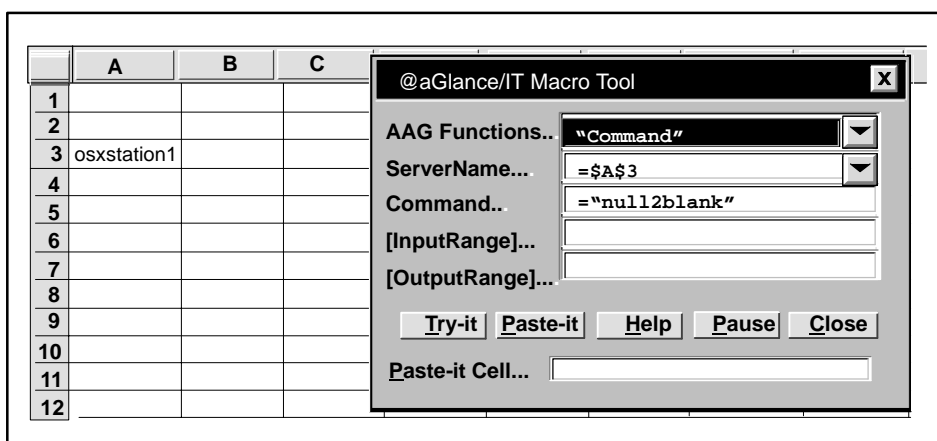


Figure A-9 Null2Blank Function

Disconnect

Use the **Disconnect** function (Figure A-10) to end a session with the server. For the ServerName field, the prefix `osx` must appear in front of the OSx station name.

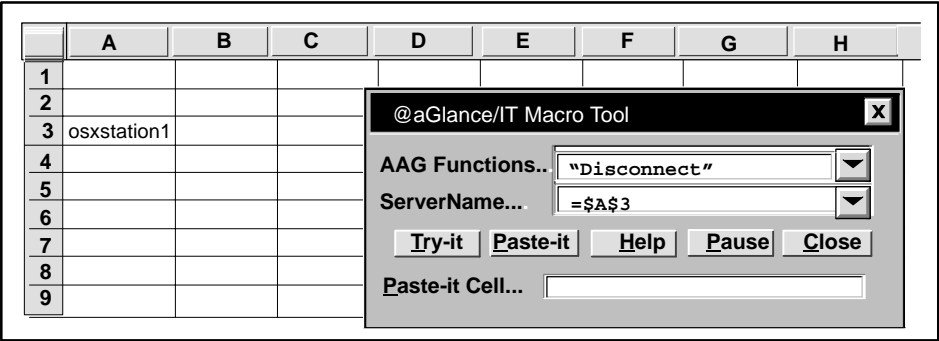


Figure A-10 Disconnect Function

Using the @aGlance Cold Link Functions (continued)

Get

Use the **Get** function (Figure A-11) to retrieve a list or a table of individual tag:attribute or tag:attribute:bit data values.

- **ServerName** field — the prefix `osx` must appear in front of the OSx station name.
- **Tag Range** field — select the range of cells that contain the tag names for the requested data values.
- **AttrRange** field — this field is not optional for OSx. The **AttrRange** is a range of cells that contain tag:attribute names or tag:attribute:bit names. The bit specified must be in the **bit_defs** relation for that attribute.
- **OutputRange** field — select one or more cells to display the data requested from OSx.
- **StatusRange** field (optional) — select the range of cells to display any error messages that occur. This range must contain the same number of cells as the **OutputRange**.

	A	B	C	D	E	F	G	H
1			loop1	loop2	ai23			
2	osxstation1	pv	.5769	7800	.4423			
3		h_range	.8500	.8000	.2010			
4		l_range	.3400	.5000	.7350			
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								

@aGlance/IT Macro Tool

AAG Functions.. "Get"

ServerName... =\$A\$2

TagRange.. =\$C\$1:\$E\$1

AttrRange... =\$B\$2:\$B\$4

OutputRange.... =\$C\$2:\$E\$4

[StatusRange]... =\$C\$6:\$E\$8

Try-it Paste-it Help Pause Close

Paste-it Cell...

Cells C6-C8, D6-D8, and E6-E8 will display error messages, if any.

Cells C2-C4, D2-D4, and E2-E4 will display the requested values.

Figure A-11 Get Function

GetAttributes

Use the **GetAttributes** function (Figure A-12) to retrieve a list of attribute names for a set of tags.

- **ServerName** field — the prefix `osx` must appear in front of the OSx station name.
- **TagRange** field — select the range of cells that contain the tag names for which you need attributes.
- **MatchString** field (optional) — enter a text search string. You can use the standard wildcard `*` (match any) and `?` (match single) characters.
- **StartIndex** field (optional) — enter an integer or cell reference with the integer as the contents of the cell. The server uses the index as a placeholder when there is more data to return than there are output cells. The default is zero, which directs the server to return values starting at the beginning of its database. If you use a cell reference, you can view the entire list by pressing **Try-it** without having to enter a new **StartIndex** every time.
- **OutputRange** field — select one or more cells to display the data requested from OSx. A non-zero index value in the upper left corner indicates that the server has additional data to send. The system uses this index value in subsequent calls to retrieve additional attribute names. To take advantage of this feature, you must change the **StartIndex** field to reference this cell (for example, B2).

	A	B	C	D	E	F	G	H
1		501	loop1	loop2	ai23			
2	osxstation1	STATUS						
3		UNITS						
4		CHANGE						
5		L_RANGE						
6								
7								
8								
9								
10								
11								
12								
13								
14								

Cells B2-B5 will display the requested attribute names. B1 shows the index returned by OSx to access further attributes. Now when you request tag values with the Get function, you can use cells C2-E5 for the output range.

@aGlance/IT Macro Tool

AAG Functions.. "GetAttributes"

ServerName... =\$A\$2

TagRange.. =\$C\$1:\$E\$1

[MatchString].. = ""

[StartIndex].. =\$B\$1

OutputRange.. =\$B\$2:BE\$5

Try-it Paste-it Help Pause Close

Paste-it Cell...

Figure A-12 GetAttributes Function

Using the @aGlance Cold Link Functions (continued)

GetHistEvent

Use the **GetHistEvent** function ([Figure A-13](#)) to retrieve a list of actual historical trend points for a time period.

- **ServerName** field — the prefix `osx` must appear in front of the OSx station name.
- **Tag Range** field — select the cell that contains the tag name for the requested historical data values.
- **AttrRange** field — this field is not optional for OSx. The **AttrRange** is a cell that contains a bit name or an attribute name. For example, you can use a bit name such as `status.active` or `status.1`, or you can use the status attribute alone. If you specify an attribute name, OSx @aGlance attempts to retrieve analog trend data. If you specify a bit name, @aGlance attempts to retrieve digital trend data.

The text following the dot is the bit name. The number following the dot is a number from 1 to 16 corresponding to the bit number in the status attribute. Refer to the chapter on defining tags in the [SIMATIC PCS 7 OSx Process Configuration Manual](#) for more information about bit names.

- **StartIndex** field (optional) — specify a spreadsheet cell where the index sent by the server will appear. The server uses this index as a placeholder when there is more data to return than there are output cells. By default, the server returns values starting at the beginning of its database and uses the start index to update additional sets of values. If you do not specify a spreadsheet cell in this field, or if you specify a constant, the server sends only the first set of data that fits in the output range.
- **OutputRange** field — select one or more cells to display the data requested from OSx. If **#N/A** appears in one or more output cells, there are no trend values for those cells. This occurs if the number of output cells exceeds the number of trend values for the requested time period.
- **StartTime** and **EndTime** fields — enter a character string with a maximum total length of 21 characters to represent the starting and ending points for the required historical trend. These two fields require both a time (such as 9:30AM or 1400) and a date (such as FRI, or TODAY, or OCT 14).

You can specify time using a number with one to six digits. The system accepts a one or two digit number as hours; a three or four digit number as hours and minutes; and a five or six digit number as hours, minutes, and seconds. A colon between fields is optional. If AM or PM is not specified, the system defaults to a 24-hour clock.

The following are examples of legitimate start or end times:

10AM FRI
10AM FRI + 2 DAYS
10:10:00 MON NEXT DAY

For more information, refer to the appendix on time strings in the [SIMATIC PCS 7 OSx Reports Manual](#).

- TimeRange field (optional) — select the range of cells to display an actual time string for each set of samples. OSx formats these values so that you can use them as the StartTime in subsequent commands.
- StatusRange field (optional) — select the range of cells to display any error messages that occur. This range must contain the same number of cells as the OutputRange. You can, however, extend the size of these cells; refer to the Excel manual for a procedure.

Cells B3-B10 will display the appropriate time for each data point.

Cells C3-C10 will display the requested data points.

Cells D3-D10 will display error messages, if any.

@aGlance/IT Macro Tool

AAG Functions.. "GetHistEvent"

Server Name.. =\$A\$3

TagRange.. =\$C\$1

AttrRange.. =\$C\$2

[StartIndex].. =0

OutputRange... =\$C\$3:\$C\$10

StartTime.. ="10AM FRI"

EndTime... ="12PM FRI"

[TimeRange]... =\$B\$3:\$B\$10

[StatusRange]... =\$D\$3:\$D\$10

Try-it Paste-it Help Pause Close

Paste-it Cell...

Figure A-13 GetHistEvent Function

Using the @aGlance Cold Link Functions (continued)

GetHistory

Use the **GetHistory** function ([Figure A-14](#)) to retrieve a list of historical trend values interpolated across a time period.

- **ServerName** field — the prefix `osx` must appear in front of the OSx station name.
- **Tag Range** field — select the range of cells that contain the tag names for the requested historical data values.
- **AttrRange** field — this field is not optional for OSx. The **AttrRange** is a range of cells that contain bit names or attribute names. For example, you can use a bit name such as `status.active` or `status.1`, or you can use the status attribute alone. If you specify an attribute name, OSx @aGlance attempts to retrieve analog trend data. If you specify a bit name, @aGlance attempts to retrieve digital trend data.

The text following the dot is the bit name. The number following the dot is a number from 1 to 16 corresponding to the bit number in the status attribute. Refer to the chapter on defining tags in the [SIMATIC PCS 7 OSx Process Configuration Manual](#) for more information about bit names.

- **OutputRange** field — select one or more cells to display the data requested from OSx. If **#N/A** appears in one or more output cells, the previous cell value, if any, is the last trend value available for the requested point.
- **StartTime** field — enter a character string with a maximum total length of 21 characters to represent the starting point for the required historical trend. This field requires both a time (such as 9:30AM or 1400) and a date (such as FRI, or TODAY, or OCT 14).

You can specify time using a number with one to six digits. The system accepts a one or two digit number as hours; a three or four digit number as hours and minutes; and a five or six digit number as hours, minutes, and seconds. A colon between fields is optional. If AM or PM is not specified, the system defaults to a 24-hour clock. For examples see the **GetHistEvent** function.

- **IntervalTime** field — enter a text string to represent the time interval between samples of historical data. For correct syntax, refer to the appendix on time strings in the *SIMATIC PCS 7 OSx Reports Manual*.
- **TimeRange** field (optional) — select the range of cells to display an actual time string for each set of samples. OSx formats these values so that you can use them as the StartTime in subsequent commands.
- **StatusRange** field (optional) — select the range of cells to display any error messages that occur. This range must contain the same number of cells as the OutputRange. You can, however, extend the size of these cells; refer to the Excel manual for a procedure.

Cells B3-B10 will display the appropriate time for each data point.

Cells C3-D10 will display the requested data points.

Cells E3-F10 will display error messages, if any.

	A	B	C	D	E	F	G	H
1			ai34	ai38				
2			pv	pv				
3	osxstation1	2:00:00	.0387	5467				
4		2:05:00	.9113	.3434				
5		2:10:00	.9875	.5657				
6		2:15:00	.4400	.2509				
7		2:20:00	.3880	.8966				
8		2:25:00	.2737	.6778				
9		2:30:00	.6552	.2045				
10		2:35:00	.1945	.5858				
11								
12								
13								
14								
15								

@aGlance/IT Macro Tool

AAG Functions.. **"GetHistory"**

Server Name.. **=\$A\$3**

TagRange.. **=\$C\$1:\$D\$1**

[AttrRange]... **=\$C\$2:\$D\$2**

OutputRange... **=\$C\$3:\$C\$10**

StartTime.. **="2 pm Mon"**

IntervalTime... **="5 min"**

[TimeRange]... **=\$B\$3:\$B\$10**

[StatusRange]... **=\$E\$3:\$F\$10**

Try-it **Paste-it** **Help** **Pause** **Close**

Paste-it Cell...

Figure A-14 GetHistory Function

Using the @aGlance Cold Link Functions (continued)

GetHistStat

The **GetHistStat** function is not supported by OSx.

GetTags

Use the **GetTags** function ([Figure A-15](#)) to retrieve a list of tag names.

- **ServerName** field — the prefix `osx` must appear in front of the OSx station name.
- **MatchString** field (optional) — enter a text search string. You can use the standard wildcard `*` (match any) and `?` (match single) characters.
- **StartIndex** field (optional) — enter an integer or cell reference with the integer as the contents of the cell. The server uses the index as a placeholder when there is more data to return than there are output cells. The default is zero, which directs the server to return values starting at the beginning of its database. If you use a cell reference, you can view the entire list by pressing **Try-it** without having to enter a new **StartIndex** every time.
- **OutputRange** field — select one or more cells to display the data requested from OSx. A non-zero index value in the upper left corner indicates that the server has additional data to send. Use this index value in subsequent calls to retrieve additional tag names. To take advantage of this feature, you must change the **StartIndex** field to reference this cell (for example, B1).

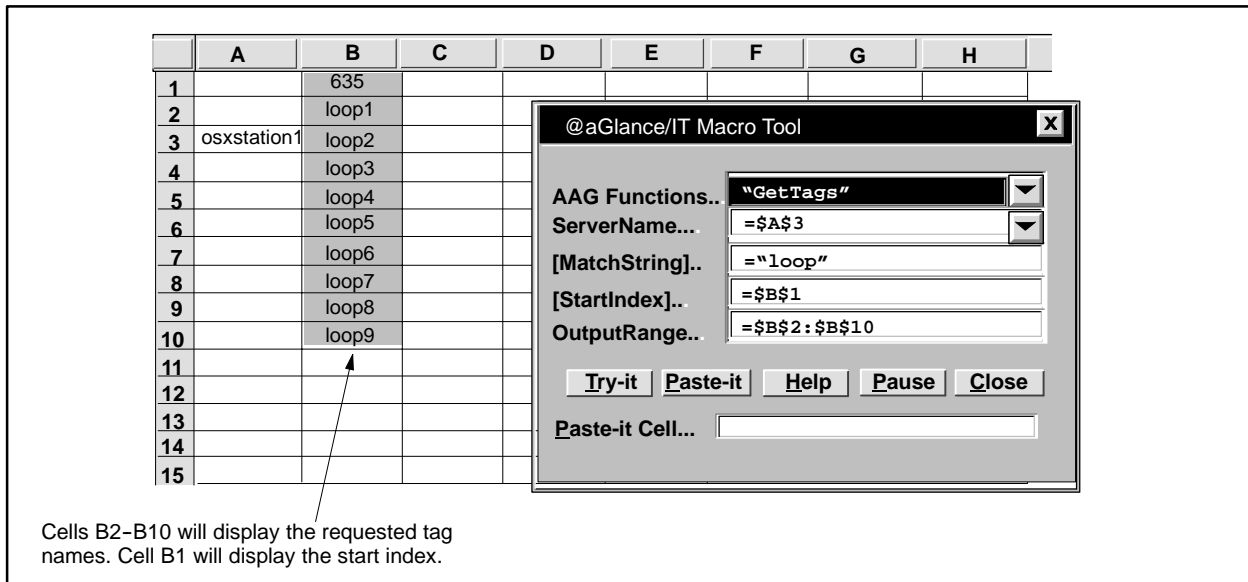


Figure A-15 GetTags Function

ListServers

The **ListServers** lists all servers running on the host station. You can specify that attributes such as name and host, appear in the output. This function is supported by the @aGlance/IT Add-in. Refer to your add-in manual or to online help for information.

Using the @aGlance Cold Link Functions (continued)

Node_Roles

See the **Command** function.

Null2Blank

See the **Command** function.

Put

Use the **Put** function ([Figure A-16](#)) to write a list or a table of individual tag:attribute data values. OSx logs all tag value changes to the OSx database in the Operator Change Log with the last eight characters of the IP address in the place of the User ID.

- **AttrRange** field — this field is not optional for OSx. The AttrRange is a range of cells that contain attribute names. Write data only to attributes of process I/O tag types (for example: LOOP or AI). The process I/O tag types are described in the chapter on defining tags in the *SIMATIC PCS 7 OSx Process Configuration Manual*.
- **ServerName** field — the prefix `osx` must appear in front of the OSx station name.
- **Tag Range** field — select the range of cells that contain the tag names for the data values being written to the server.



WARNING

Writing data to tags other than process I/O tags may result in database values that could cause unpredictable operation by the controller.

Unpredictable operation by the controller can cause death or serious injury to personnel, and/or damage to equipment.

When you write data, write only to one of the process I/O tags.

- **InputRange** field — select a range of cells that contain a set of values to be sent to the server.

NOTE: Because Excel and Lotus 1-2-3 convert all integer values to floating point values, you can only write floating point data. This means that you cannot write integer or bit values to attributes of selected tags from these applications; a data type mismatch would occur.

Affected tags are the following: CTR, IVAR, DO, DO10, and all of the device tag types. You can only write to attributes having a domain of FLOAT32, STRING, or CISTRING. Refer to the chapter on defining tag in the *SIMATIC PCS 7 OSx Process Configuration Manual* for valid attributes.

- **StatusRange** field (optional) — select the range of cells to display any error messages that occur. This range must be the same size and shape as the **InputRange**.

Cells C4-E4 will display error messages, if any.

Figure A-16 Put Function

PutHistory

The **PutHistory** function is not supported by OSx.

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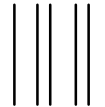
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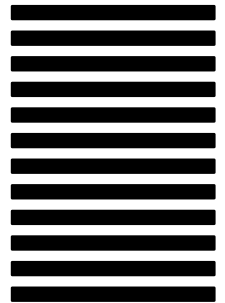
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